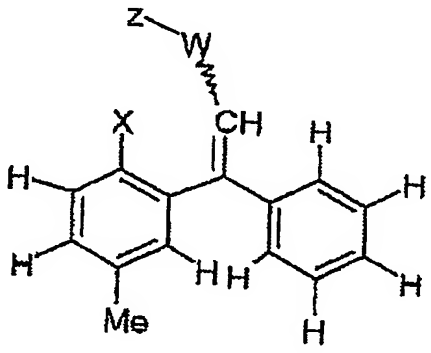
CLAIMS

1. A method of preparing an enantiomerically enriched compound of formula (II), characterized in that it comprises the enantioselective hydrogenation of a compound of general formula (I):



(I)

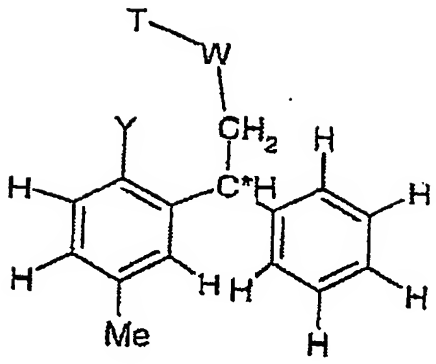
where

W is a CH_2 group or a C=O group;

X is a hydroxy, C_1-C_6 alkoxy, benzyloxy, C_1-C_6 acyloxy, O-tetrahydropyranyl, O-tetrahydrofuryl group, a group O^-M^+ in which M^+ is a cation of an alkali metal or a cation $N^+R_1R_2R_3$ where R_1, R_2 and R_3, which may be identical or different, are a C_1-C_8 alkyl, C_3-C_8 cycloalkyl or benzyl group;

Z, when W is CH_2, is a hydroxy group whereas, when W is C=O, it is a hydroxy, C_1-C_6 alkoxy, benzyloxy or $N(iC_3H_7)_2$ group, a group O^-M^+ in which M^+ is a cation of an alkali metal or a cation $N^+R_1R_2R_3$ where R_1, R_2 and R_3, which may be identical or different, are a C_1-C_8 alkyl, C_3-C_8 cycloalkyl or benzyl group;

to give a compound of general formula (II):



(II)

where

W has the meanings indicated above;

Y has the same meanings indicated above for X;

T has the same meanings indicated above for Z; or

when W is C=O

Y and T, together, are an oxygen atom; and

C* indicates the enantiomerically enriched chiral carbon atom;

in the presence of a catalyst or its suitable precursor based on Rh, Ru or Ir, having an oxidation state of 0, +1 or +2, and containing at least one enantiomerically enriched chiral ligand.

2. A method according to claim 1, characterized in that the compound of formula (II) in which Y, W and T are not OH, CH_2 and $N(iC_3H_7)_2$, respectively, is converted to tolterodine enantiomerically enriched in the desired enantiomer.

3. A method according to claim 1 or 2, characterized in that it is carried out in homogeneous phase or in multiphase conditions.

4. A method according to any one of the preceding claims from 1 to 3, characterized in that the catalyst and its precursor are used as they are or immobilized on a suitable inorganic or organic support.

5. A method according to claim 4, characterized in that the support is selected from the group comprising silica,

heteropolyacids/silica, heteropolyacids/alumina, zeolites, and resins containing sulphonic and phosphonic groups.

6. A method according to any one of the preceding claims from 1 to 5, characterized in that the molar ratio between the catalyst, or its precursor, and the compound of formula (I) is between 1/10 and 1/30 000.

7. A method according to claim 6, characterized in that the said ratio is between 1/10 and 1/10 000.

8. A method according to claim 6, characterized in that the said ratio is between 1/100 and 1/5000.

9. A method according to any one of the preceding claims from 1 to 8, characterized in that the enantiomerically enriched chiral ligand is selected from the group comprising mono- and diphosphinic, mono- and diphosphitic, mono- and diaminophosphinic ligands, such as the ligands containing a monophosphinic group and a C_1-C_6 alkoxy, benzyloxy, oxazoline, pyrrolidine or piperidine group, a group NR_1R_2, where R_1 and R_2, which may be identical or different, are a C_1-C_8 alkyl, C_3-C_8 cycloalkyl or benzyl group, a group $NHCOR_3$ or $NHSO_2R_3$ where R_3 is a C_1-C_8 alkyl, phenyl or tolyl group.

10. A method according to any one of the preceding claims from 1 to 9, characterized in that, if necessary, the valence state of the metal of the catalyst is supplemented with at least one ancillary co-ligand.

11. A method according to any one of the preceding claims from 1 to 10, characterized in that the catalyst is selected from the group comprising $Ru(TMBTP)(OCOCF_3)_2$; $Ru(TMBTP)(p.cymene)I_2$; $Ru(TMBTP)(p.cymene)Cl_2$; $Ru(BINAP)(OCOCF_3)_2$; Rh(COD) (Chiraphos)ClO_4; Rh(NBD)(Chiraphos)ClO_4; where TMBTP denotes

2,2',5,5'tetramethyl,3,3'bis(diphenylphosphine),4.4'bithiophene, BINAP denotes 2,2'bis(diphenylphosphine)1,1'binaphthyl, Chiraphos denotes 2,3 bis(diphenylphosphine)butane, COD denotes cyclooctadiene, and NBD denotes norbornadiene.

12. A method according to any one of the preceding claims from 1 to 11, characterized in that the enantioselective hydrogenation is carried out at a pressure of 1-100 bar.

13. A method according to claim 12, characterized in that the said pressure is 1-20 bar.

14. A method according to any one of the preceding claims from 1 to 13, characterized in that the enantioselective hydrogenation is carried out at a temperature of 20-100ºC.

15. A method according to claim 14, characterized in that the said temperature is 20-60ºC.

16. A method according to any one of the preceding claims from 1 to 15, characterized in that enantioselective hydrogenation is carried out in the presence of a solvent or a solvent mixture.

17. A method according to claim 16, characterized in that the solvent is selected from the group comprising C_1-C_4 alcohols, tetrahydrofuran, methylene chloride, C_1-C_4 alkyl aromatics, C_6-C_{10} alkanes and their mixtures with water.

18. A method according to any one of the preceding claims from 1 to 17, characterized in that in the compound of formula (I)
W is a C=O group;
X is OH or O^-M^+ in which M^+ has the meanings already indicated above;
Z is OH, $N(iC_3H_7)_2$ or O^-M^+ in which M^+ has the meanings already indicated above.

19. A method according to any one of the preceding claims from 1 to 18, characterized in that in the compound of formula (II)

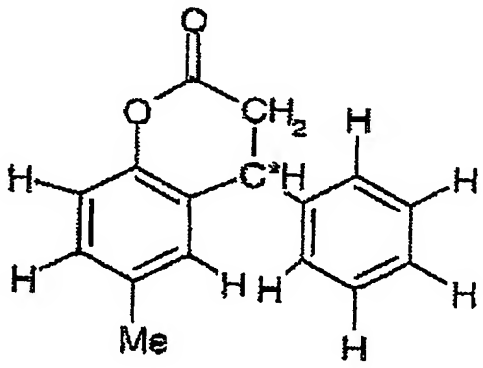
W is a CH_2 or C=O group;

Y is OH or O^-M^+ in which M^+ has the meanings already indicated above;

T is OH, $N(iC_3H_7)_2$ or O^-M^+ in which M^+ has the meanings already indicated above.

20. A method according to claim 19, characterized in that Y and T, together, represent an oxygen atom of the lactone of formula (IIA)

IIA)



(II A)